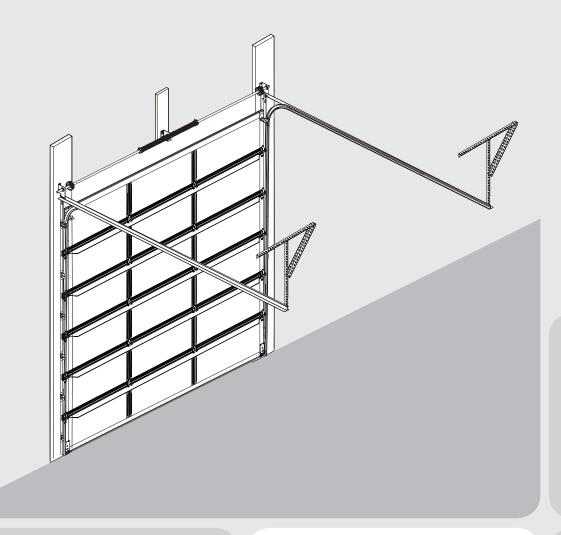


8850 Aluminum Full View

Torsion Spring

Installation Instructions and Owner's Manual



Wayne-Dalton Corp. P.O. Box 67 Mt. Hope, OH 44660 www.wayne-dalton.com

IMPORTANT NOTICE!

Read these instructions carefully before attempting installation. If in question about any of the procedures, do not perform the work. Instead, have a qualified door agency do the installation or repairs.

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Definition of key words used in this manual: • WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN SEVERE OR FATAL INJURY.

CAUTION: PROPERTY DAMAGE OR INJURY CAN RESULT FROM FAILURE TO FOLLOW INSTRUCTIONS.

IMPORTANT: REQUIRED STEP FOR SAFE AND PROPER DOOR OPERATION.

NOTE: Information assuring proper installation of the door.

△ WARNING

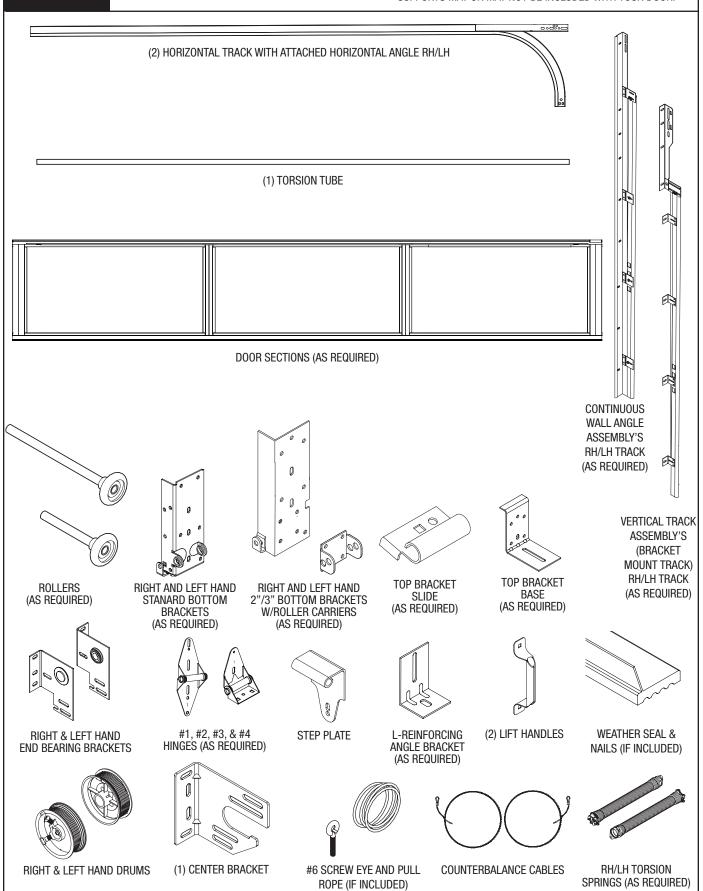
READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING INSTALLATION. IF IN QUESTION ABOUT ANY OF THE PROCEDURES, DO NOT PERFORM THE WORK. INSTEAD, HAVE A TRAINED DOOR SYSTEMS TECHNICIAN DO THE INSTALLATION OR REPAIRS.

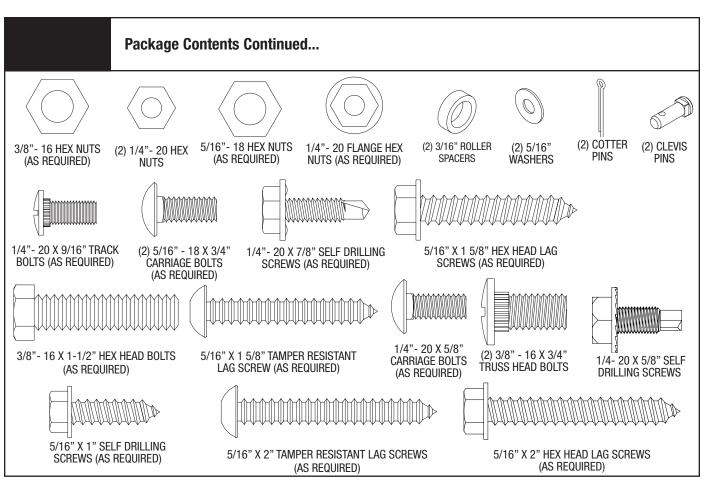
- 1. READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS.
- 2. Wear protective gloves during installation to avoid possible cuts from sharp metal edges.
- 3. It is always recommended to wear eye protection when using tools, otherwise eye injury could result.
- 4. Avoid installing your new door on windy days. Door could fall during the installation causing severe or fatal injury.
- 5. Doors 12'- 0" wide and wider should be installed by two persons, to avoid possible injury.
- 6. Operate door ONLY when it is properly adjusted and free from obstructions.
- If a door becomes hard to operate, inoperative or is damaged, immediately have necessary adjustments and/or repairs made by a trained door system technician using proper tools and instructions.
- 8. DO NOT stand or walk under a moving door, or permit anybody to stand or walk under an electrically operated door.
- 9. DO NOT place fingers or hands into open section joints when closing a door. Use lift handles/gripping points when operating door manually.
- 10. DO NOT permit children to operate garage door or door controls. Severe or fatal injury could result, should the child become entrapped between the door and the floor.
- 11. Due to constant extreme spring tension, DO NOT attempt any adjustment, repair or alteration to any part of the door, especially to springs, spring brackets, bottom corner brackets, red colored fasteners, cables or supports. To avoid possible severe or fatal injury, have any such work performed by a trained door systems technician using proper tools and instructions.
- 12. On electrically operated doors, pull down ropes must be removed and locks must be removed or made inoperative in the open (unlocked) position.
- 13. Top section of door may need to be reinforced when attaching an electric opener. Check door and/or opener manufacturer's instructions.
- 14. VISUALLY inspect door and hardware monthly for worn and or broken parts. Check to ensure door operates freely.
- 15. Test electric opener's safety features monthly, following opener manufacturer's instructions.
- NEVER hang tools, bicycles, hoses, clothing or anything else from horizontal tracks. Track systems are not intended or designed to support extra weight.

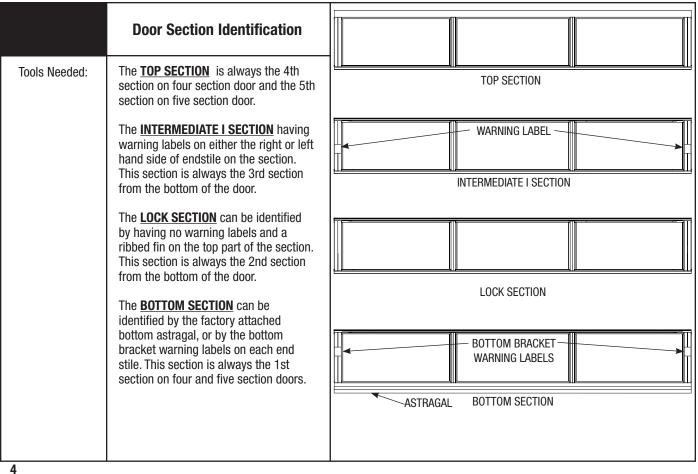
After installation is complete, fasten this manual near garage door.

Package Contents

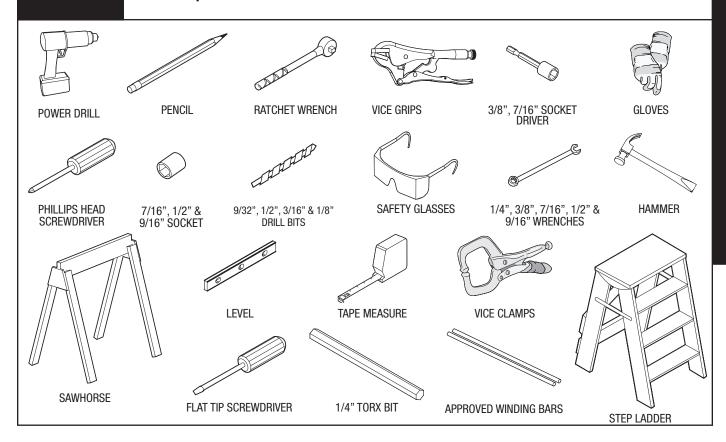
NOTE: DEPENDING ON THE DOOR MODEL, SOME PARTS LISTED WILL NOT BE SUPPLIED IF NOT NECESSARY. REAR SUPPORTS MAY OR MAY NOT BE INCLUDED WITH YOUR DOOR.







Tools Required



P1

Removing An Old Door

Counterbalance spring tension must always be released before any attempt is made to start removing an existing door.

△ WARNING

A POWERFUL SPRING RELEASING ITS ENERGY SUDDENLY CAN CAUSE SEVERE OR FATAL INJURY. TO AVOID INJURY HAVE A TRAINED DOOR SYSTEMS TECHNICIAN, USING PROPER TOOLS AND INSTRUCTIONS, RELEASE THE SPRING TENSION.

For detailed information see supplemental instructions "removing an existing door/preparing the opening". These instructions are available at no charge from Wayne-Dalton Corp., P.O. Box 67, Mt Hope, OH 44660, or at www.wayne-dalton.com.

P2

Preparing the Opening

Tools Needed: Recommended tools from page 5

△ WARNING

FAILURE TO SECURELY ATTACH A

SUITABLE MOUNTING PAD TO STRUCTURALLY SOUND FRAMING COULD CAUSE SPRINGS TO VIOLENTLY PULL MOUNTING PAD FROM WALL, RESULTING IN SEVERE OR FATAL INJURY.

If you just removed your existing door or you are installing a new door, complete all steps in PREPARING THE OPENING.

To ensure secure mounting of track brackets, side and center bearing brackets, or steel angles to new or retro-fit construction, it is recommended to follow the procedures outlined in DASMA Technical Data Sheets #156, #161 and #164 at www.dasma.com.

The inside perimeter of your garage door opening should be framed with wood. The jambs and header must be securely fastened to sound framing members. It is recommended that 2" x 6" lumber be used. The jambs must be plumb and the header level. The jambs should extend a minimum of 14" (356 mm) above the top of the opening for Torsion spring applications. For low headroom applications, the jambs should extend to the ceiling height.

IMPORTANT: Closely inspect existing jambs, header and mounting surface. Any wood found not to be sound, must be replaced.

For Torsion spring applications, a suitable mounting surface must be firmly attached to the wall, above the header at the center of the opening. The mounting surface must be 2" x 6" lumber minimum (Select southern yellow pine lumber or equivalent. Do not use lumber marked as spruce-pine-fir or SPF). The mounting surface must be securely attached to the wall with four (4) 3/8" anchors for masonry constructions or four (4) 5/16" x 4" lag screws for wood construction.

NOTE: Drill a 3/16" pilot hole in the mounting surface to avoid splitting the lumber. Do not attach the mounting surface with nails.

HEADROOM REQUIREMENT: Headroom is defined as the space needed above the top of the door for tracks, springs, etc. to allow the door to open properly. If the door is to be motor operated, 3" (64 mm) of additional headroom is required.

BACKROOM REQUIREMENT: Backroom is defined as the distance needed from the opening back into the garage to allow the door to open fully.

Weather Seal (May Not Be Included):

Cut or trim the weather seal (if necessary) to the header and jambs.

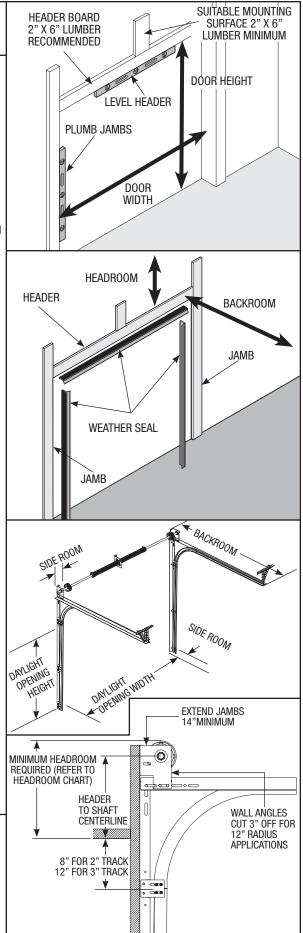
Align the header seal with the inside edge of the header and temporarily secure it to the header with equally spaced nails. Next, fit the jamb seals up tight against the header seal and flush with the inside edge of the jamb. Temporarily secure the jamb seals with equally space nails approximately 12" to 18" apart. This will keep the bottom section from falling out of the opening during installation.

NOTE: Do not permanently attach weather seal to the jamb at this time.

DIM. Y INDICATES THE DISTANCE FROM THE HEADER TO THE CENTER LINE OF TORSION SHAFT.

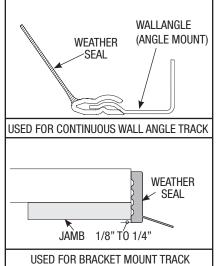
NOTE: 3" OF ADDITIONAL HEADROOM IS REQUIRED FOR SINGLE TROLLEY OPERATOR INSTALLATIONS.

NOTE: HEADROOM CAN BE REDUCED 2-1/2" BY USING THE QUICK CLOSING TOP FIXTURE OR BY SHORTENING THE VERTICAL TRACKS BY 3° MAX.



Preparing the Opening Continued.....

Tools Needed:



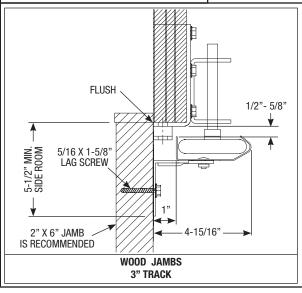
Note: For other drums, mounting conditions, lifts, and options, consult your Wayne-Dalton representative.

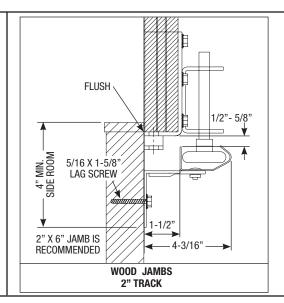
HEADROOM CHART For Standard Lift Track (Minimum Distance Required)

DRUMS	DIMS	3" TRACK, 15" Radius	2" TRACK, 15" Radius	2" TRACK, 12" RADIUS
400-8	HEADROOM	15-1/2"	14-1/2"	12-1/2"

BACKROOM CHART & SIDEROOM CHART

TRACK SIZE	DEPTH INTO ROOM	SIDEROOM
2"	DOOR HEIGHT PLUS 18" IF TROLLEY PLUS 66"	4"
3"	DOOR HEIGHT PLUS 24" IF TROLLEY PLUS 66"	5-1/2"





Installation

Begin the installation of the door by checking the opening. It must be the same size as the door. Vertical jambs must be plumb and level with header.

IMPORTANT: STAINLESS STEEL OR PT 2000 COATED LAG SCREWS (NOT SUPPLIED) MUST BE USED WHEN INSTALLING CENTER BEARING BRACKETS, END BRACKETS, JAMB BRACKETS, OPERATOR MOUNTING/SUPPORT BRACKETS AND DISCONNECT BRACKETS ON TREATED LUMBER (PRESERVATIVE-TREATED). STAINLESS STEEL OR PT 2000 COATED LAG SCREWS ARE NOT NECESSARY WHEN INSTALLING PRODUCTS ON UN-TREATED LUMBER.

IMPORTANT: WHEN INSTALLING 5/16" DIAMETER LAG SCREWS USING AN ELECTRIC DRILL/DRIVER, THE DRILL/DRIVER'S CLUTCH MUST BE SET TO DELIVER NO MORE THAN 200 IN. LBS. OF TORQUE. FASTENER FAILURE COULD OCCUR AT A HIGHER SETTING.

Note: It is recommended that 5/16" lag screws be pilot drilled using a 3/16" drill bit, prior to fastening.

Attaching Counterbalance Cables to Bottom Brackets

Tools Needed: None **IMPORTANT:** RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE GARAGE LOOKING OUT.

NOTE: For door section identification see page 4.

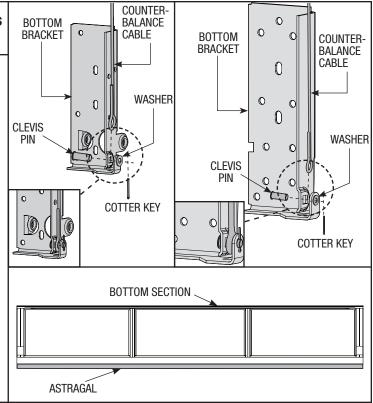
Uncoil the counterbalance cables and slip the loop at the ends of the cables over each clevis pin in the bottom bracket.

Insert a roller into bottom bracket of the bottom section.

Insert cotter key and separate end to hold the clevis pin in place.

Repeat for other side.

NOTE: Verify astragal (bottom seal) is aligned with door section. If there is more than 1/2" excess astragal on either side, trim astragal even with door section.



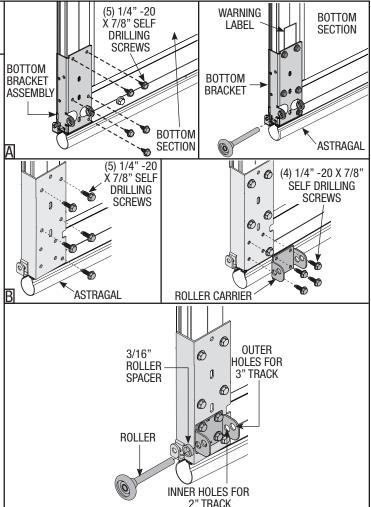
2

Bottom Bracket

Tools Needed: Power Drill

7/16" Socket Driver **Standard Bottom Brackets:** (A) Locate the bottom section and the left and right hand bottom brackets. Secure the counterbalance cables to the brackets using clevis pin, washer and cotter key as shown in the previous step. Secure bottom brackets to bottom section using (5) 1/4" -20 X 7/8" self drilling screws as shown. Insert a roller into the bottom brackets as shown.

2"/3" Bottom Brackets with Roller Carriers: (B) Secure the counterbalance cables in the same manner as described above in the previous step. Attach the bracket to the section with (5) 1/4" -20 X 7/8" self drilling screws. Attach the roller carrier to the bottom bracket with (4) 1/4" -20 X 7/8" self drilling screws. Insert a roller and 3/16" roller spacer into the roller carrier; the inner holes of the roller carrier are for 2" track; the outer holes of the roller carrier are for 3" track.



Attaching Bracket Mount Track & Bottom Section

Tools Needed:

None

IMPORTANT: THE TOPS OF THE VERTICAL TRACKS MUST BE LEVEL FROM SIDE TO SIDE. IF THE BOTTOM SECTION WAS SHIMMED TO LEVEL IT, THE VERTICAL TRACK ON THE SHIMMED SIDE MUST BE RAISED THE HEIGHT OF THE SHIM.

Position the left hand vertical track assembly over the rollers of the bottom section. Make sure the counterbalance cable is located between the rollers and the door jamb. Drill 3/16" pilot holes into the door jamb for the lag screws.

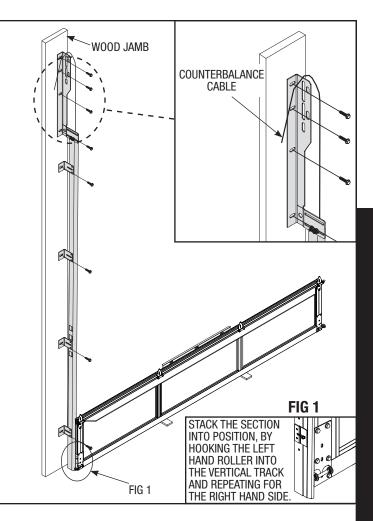
Loosely fasten vertical track assembly to the jamb using 5/16" x 1-5/8" lag screws. Tighten the bottom lag screw to jamb, to maintain 3/8" to 5/8" spacing as shown between the bottom section and vertical track. The other lag screws will be tightened in step, Top Section.

Repeat for other side.

Stack the bottom section into position by hooking the left hand roller into the left hand vertical track, as shown in FIG. 1.

NOTE: Adjust the spacing of the vertical tracks from 3/8" - 5/8" spacing at the bottom section and 1-11/16" to 1-3/4" spacing at the top section.

NOTE: Hang the counterbalance cables over the top of the flagangles as shown.



Attaching Continuous Wall Angle & Installing Bottom Section

Tools Needed: None If your door has been installed with bracket mount track, skip this step and continue with the next step.

IMPORTANT: THE TOPS OF THE VERTICAL TRACKS MUST BE LEVEL FROM SIDE TO SIDE. IF THE BOTTOM SECTION WAS SHIMMED TO LEVEL IT, THE VERTICAL TRACK ON THE SHIMMED SIDE MUST BE RAISED THE HEIGHT OF THE SHIM.

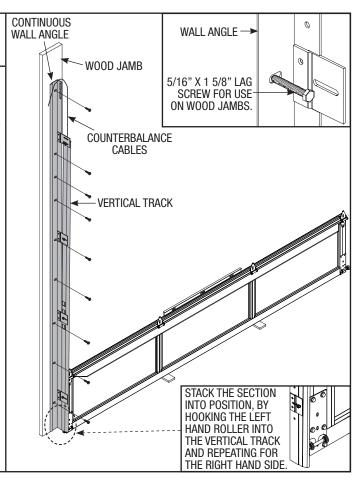
Position the left hand vertical track assembly over the rollers of the bottom section. Make sure the counterbalance cable is located between the rollers and the door jamb. Drill 3/16" pilot holes into the door jamb for the lag screws.

Loosely fasten vertical track assembly to the jamb using 5/16" x 1-5/8" lag screws. Tighten the bottom lag screw to jamb, to maintain 3/8" to 5/8" spacing as shown between the bottom section and vertical track. Now, tighten all remaining lag screws. Repeat for other side.

Stack the bottom section into position by hooking the left hand rollers into the left hand vertical track, as shown.

NOTE: Adjust the spacing of the vertical tracks from 3/8" - 5/8" spacing at the bottom section and 1-11/16" - 1-3/4" spacing at the top section.

NOTE: Hang the counterbalance cables over the top of the continues wall angle as shown.



5

Tools Needed:

Power Drill

7/16" Socket Driver

Hinges

NOTE: Top sections do not require hinges.

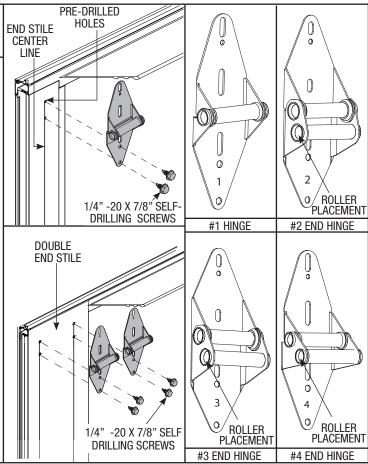
Use the **ENDHINGE CHART** to determine the proper endhinges for the proper section. Install only the left hand end hinge, as the right hand end hinge will need to be installed when the sections are stacked. Align the proper left hand end hinges to the proper sections (see page 4) using the center line of the endstile as a guide and the 2 pre-drilled holes in the endstile to locate the placement of the end hinge. Secure using (2) 1/4" -20 x 7/8" self drilling screws as shown. Sections with double end stiles require 2 end hinges per side on each section, as shown.

The end hinge sequence is dependent on track size (2" or 3").

2" TRACK APPLICATIONS begin with #1 hinges attached to the top corners of the bottom section.

3" TRACK APPLICATIONS begin with #3 hinges attached to the top corners of the bottom section.

To install center hinges on doors without integral fins, place the center hinge over the center stile(s), using the center line of the stile(s) as a guide, and secure to the section using (2) 1/4" -20 x 7/8" self drilling



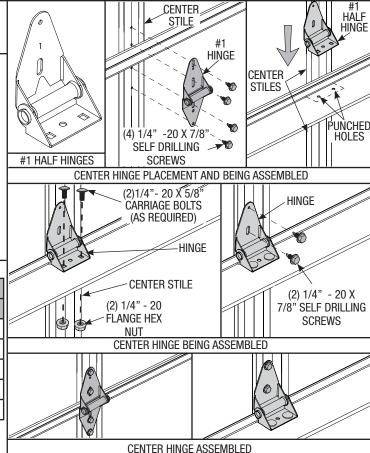
Hinges Continued...

screws, as shown.

To install center hinges on doors with integral fins, seat the bottom half of the half hinge(s) onto the integral fin above the center stile(s) and over the pre-drilled holes on each section, and secure to the fin with (2) 1/4"-20 x 5/8" carriage bolts and (2) 1/4" - 20 flange hex nuts, as shown. Repeat for all remaining sections, except top section.

ENDHINGE CHART			
Section	2 inch track	3 inch track	
Bottom	#1 hinge	#3 hinge	
Second	#2 hinge	#4 hinge	
Third	#3 hinge	#5 hinge	
Fourth	#4 hinge	#6 hinge	
Fifth	#5 hinge	#7 hinge	
Hinges are stamped with their identification,			

Hinges are stamped with their identification, as shown above on the #1 Half Hinge.



6

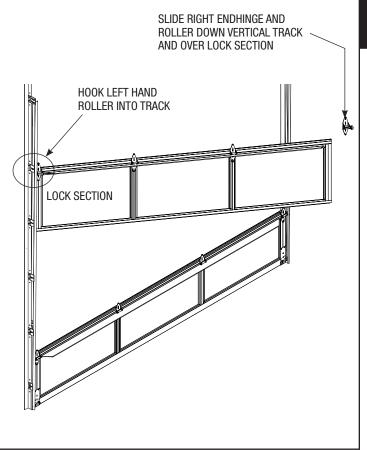
Stacking Sections

Tools Needed:

Power Drill

7/16" Socket Driver **NOTE:** For door section identification see page 4.

Locate the Lock Section (the second section) and insert a roller into the left end hinge. Stack this section into the opening by hooking the roller into the left hand vertical track and lowering the section onto the bottom section, as shown. Insert a roller into the proper, uninstalled right hand end hinge, and place the roller into the right hand vertical track. Lower the roller and hinge into the proper position over the section, and attach to the section in the same manner the left hand end hinge was attached, as described on step 5. Verify section alignment, and flip up the upper hinge leaf(s) from the bottom section and secure to the lock section using 1/4"-20 x 7/8" self-drilling screws. Continue to stack the remaining sections in the proper sequence, except for the top section.



Top Bracket

Tools Needed:

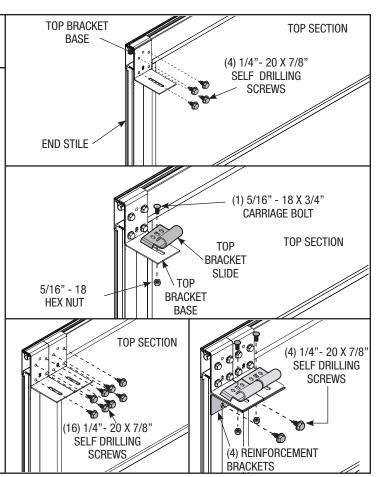
Power Drill

7/16" Socket Driver Align upper-center hole of top bracket with vertical groove on the end stile and ensure top bracket is level and aligned with edge of top section. Secure with (4) 1/4"- 20 x 7/8" self drilling screws, one in each corner of the top bracket, as shown. Loosely fasten top bracket slide with (1) 5/16" - 18 x 3/4" carriage bolt and 5/16" - 18 hex nut. Insert roller into slide. Repeat for other side.

If your door has double end stiles then it will require 4 top brackets; as shown, in which case an additional top bracket will be installed in the same manner next to the first top bracket with one roller being placed through both top bracket slides. Four reinforcement brackets will then be installed under the 4 top brackets and secured to the section with (4) 1/4"- 20 X 7/8" self drilling screws.

NOTE: If your door is trolley operated; it is recommended that an optional strut be installed on the top rail.

Now stack the top section. Take care to ensure it is aligned properly with the other sections.



Ö

Tools Needed:

Tape Measure

Pencil

Power Drill

9/32" Drill Bit

1/4" Wrench

Lift Handle

Bottom section

Locate the center most stile of the bottom section of the door. On the inside of the door, center the lift handle vertically with the center stile; horizontally on the bottom section rail, and within 8" of the bottom of the section.

Use the lift handle as a template, place a mark at each hole location onto the bottom section rail. Drill a 9/32" diameter hole through the section at each marked location.

NOTE: Be extremely careful to keep drill straight.

Assemble the outside and inside lift handle to the section using (4) 1/4" -20 x 5/8" self drilling screws.

Lock (2nd) section

Position the lift handle's bottom hole 4" from the bottom of the lock (2nd) section. Vertically align with the lift handle on the bottom section. Using the lift handle as a template, place mark at each hole location onto the center stile. Drill a 9/32" diameter through the section at each marked location.

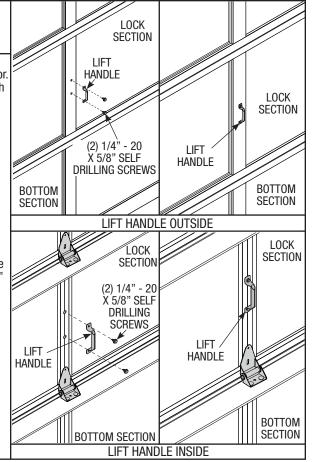
NOTE: Be extremely careful to keep drill straight.

Assemble the outside and inside lift handle to the section

using (4) 1/4" -20 x 5/8" self drilling screws.

△ WARNING

TO AVOID POSSIBLE INJURY, LIFT HANDLES THAT ARE INSTALLED WITHIN 4 INCHES OF A SECTION INTERFACE SHALL PROMOTE VERTICAL ORIENTATION OF THE HAND.



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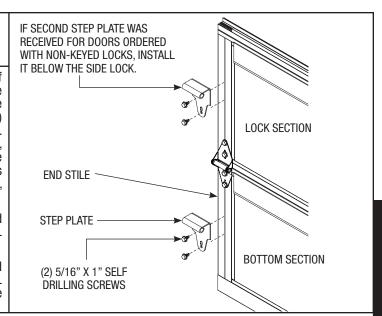
Step Plate

Tools Needed:

Position your step plate, on the inside of the door, over the bottom section end stile on the side of the door containing the side lock. Secure step plate to endstile with (2) 5/16" x 1" self drilling screws, as shown. For doors ordered with non-keyed locks, a second step plate is provided. Install the second step plate in the same manner as the first, on the lock section (second section), below the side lock.

NOTE: Install lock at this time (sold separately) see instructions in OPTIONAL SIDELOCK INSTALLATION on page 22.

NOTE: Install exhaust port at this time (sold separately) see instructions in OPTIONAL EXHAUST PORT INSTALLATION on page 24



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Tools Needed: Hammer

Nail

Power Drill

7/16 Socket Driver

Tape Measure

Top Section

Place the top section in the opening and vertically align with lower sections.

Temporarily secure the top section by driving a nail in the header near the center of the door and bending it over the top section.

Now flip up hinge leaf against section, fastening center hinges first, and end hinges last. (Refer to Step 5).

When installing a door with a torsion counterbalance system, vertical track alignment is critical. Position flagangle between 1-11/16" (43 mm) to 1-3/4" (44 mm) from the edge of the door. Tighten the bottom lag screw. Flagangles must be parallel to the door sections.

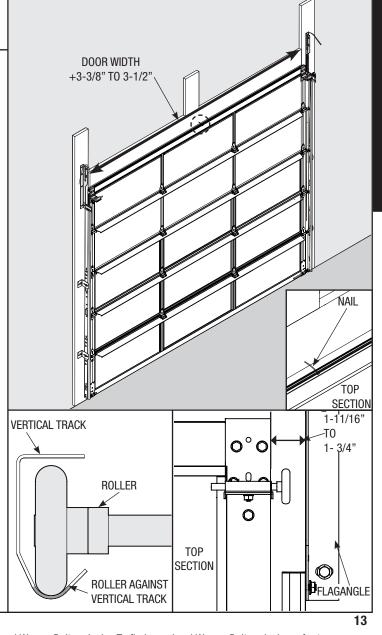
Repeat for opposite side.

IMPORTANT: THE DIMENSION BETWEEN THE FLAGANGLES MUST BE DOOR WIDTH PLUS 3-3/8" (86MM) TO 3-1/2" (89 MM) FOR SMOOTH, SAFE DOOR OPERATION.

Complete the vertical track installation by securing the center jamb bracket(s) and tightening the other lag screws.

Push the vertical track against the rollers so that the rollers are touching the deepest part of the curved side of the track (see illustration). Tighten all the carriage bolts and nuts.

Repeat for opposite side.



Attaching Horizontal Track to Adjustable Flagangle

Tools Needed:

9/16" Socket

7/16" Socket

Ratchet Wrench

9/16" Wrench

Level

Hammer

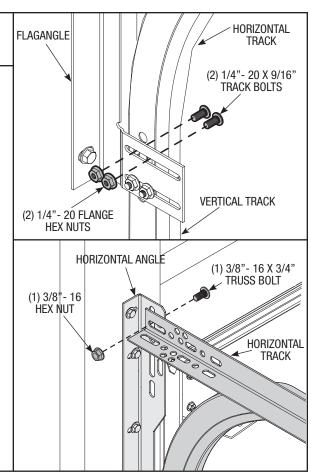
To install horizontal track, place the curved end over the top roller. Align the bottom of the horizontal track with the vertical track. Hand tighten the horizontal track to the flagangle with (2) 1/4"- 20 x 9/16" track bolts and (2) 1/4"- 20 flange hex nuts.

Level the horizontal track assembly and bolt the horizontal angle to the slot in the flagangle using (1) 3/8"- 16 x 3/4" truss bolt and (1) 3/8"- 16 hex nut. Repeat for other side. Remove the nail that was temporarily holding the top section in place, installed in Step 10.

IMPORTANT: FAILURE TO REMOVE NAIL BEFORE ATTEMPTING TO RAISE DOOR COULD CAUSE PERMANENT DAMAGE TO TOP SECTION.

△ WARNING

DO NOT RAISE DOOR UNTIL HORIZONTAL TRACKS ARE SECURED AT REAR, AS OUTLINED IN STEP 20, OR DOOR COULD FALL FROM OVERHEAD POSITION CAUSING SEVERE OR FATAL INJURY.



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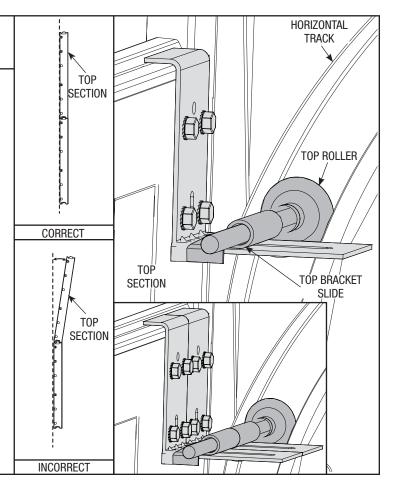
Adjusting Top Brackets

Tools Needed:

7/16" Wrench

With tracks installed you can adjust the top brackets. Vertically align the top section of the door with the lower sections. Once aligned, position the top roller, out against the horizontal track.

Maintaining the slide's position, tighten the (1) 5/16"- 18 hex nut to secure the top bracket slide to the top bracket base. Repeat for other side.



Torsion End Bearing Brackets

Tools Needed:

Power Drill

7/16" Socket Driver

9/16" Socket

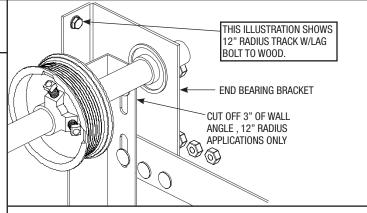
Ratchet Wrench

9/16" Wrench

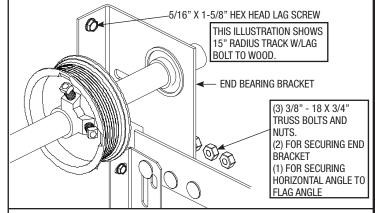
IMPORTANT: RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE GARAGE LOOKING OUT.

Attach the EBF's (end bearing fixtures/brackets) to the horizontal reinforcing angles using (3) 3/8" - 18 x 3/4" truss bolts and nuts. as shown.

Once the bracket is secured to the horizontal angle, secure the top of the end bearing bracket to the jamb using (2) 5/16" x 1-5/8" hex head lag screws. Repeat for other side.



CONTINUOUS WALL ANGLE ATTACHED TO END BRACKET.



BRACKET MOUNT TRACK ATTACHED TO END BRACKET.

14

Tools Needed:

Power Drill

7/16" Socket Driver

Level

Tape Measure

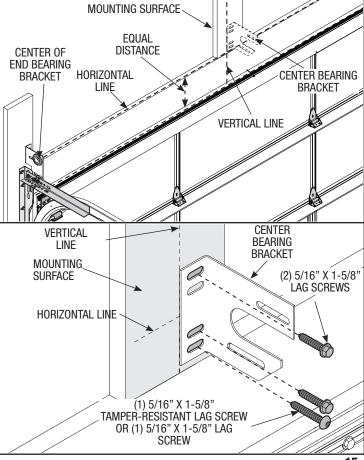
Pencil

1/4" Torx Bit

Center Bearing Bracket

Measure to locate the center of the door and mark a vertical pencil line on the mounting surface above the door, to indicate the center line of the door. Then, measure from the center of the bearing, in one of the end bearing brackets, DOWN to the top of the door. Using that dimension, measure UP from the top of the door and mark a horizontal pencil line on the mounting surface, intersecting the vertical pencil line. Now align the edge of the center bearing bracket along the vertical pencil line on the mounting surface. Center the bearing bracket on the horizontal line. This will ensure the torsion tube is level between the center and end bearing brackets. Attach the center bearing bracket, in this location, to the mounting surface, using (2) 5/16" x 1-5/8" lag screws and (1) 5/16" x 1-5/8" tamper-resistant lag screw.

IMPORTANT: USE THE 5/16" X 1-5/8" TAMPER-RESISTANT LAG SCREW ONLY IF MOUNTING SURFACE MOUNTED OVER MASONRY. TAMPER-RESISTANT LAG SCREW MUST BE ATTACHED THROUGH THE BOTTOM HOLE OF THE CENTER BEARING BRACKET.



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Torsion Spring Assembly

Tools Needed:

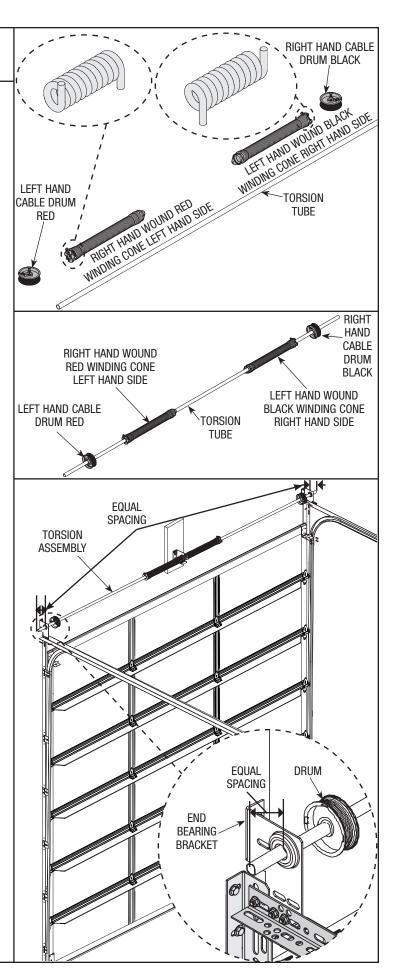
IMPORTANT: RIGHT AND LEFT HAND IS ALWAYS DETERMINED FROM INSIDE THE GARAGE LOOKING OUT.

NOTE: Identify the springs provided as either right hand wound (red winding cone), which goes on the LEFT HAND SIDE or left hand wound (black winding cone), which goes on the RIGHT HAND SIDE.

Facing the inside of the door, lay the torsion tube on the floor. Lay the spring with the black color coded winding cone and the black color coded cable drum, at the right hand end of the tube. Lay the spring with the red color coded winding cone and the red color coded cable drum, at the left hand end of the tube.

NOTE: The set screws used on all torsion counterbalance winding cones and cable drums, are now colored red. DO NOT identify right and left hand by the set screw color.

With assistance, pick up the torsion assembly and slide one end of the tube through one end bearing bracket. Lay the torsion tube into the center bearing bracket and slide the other end of the tube into the opposite end bearing bracket. Position the torsion tube so that equal amounts of the tube extend from each end bearing bracket.



Attaching Torsion Springs to Center Bearing Bracket

Tools Needed:

9/16" Socket

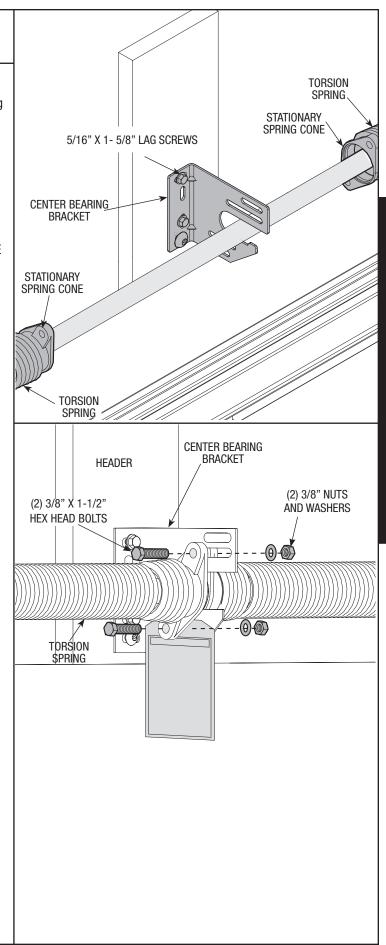
Ratchet Wrench

9/16" Wrench

Align the stationary spring cone(s) with the holes in the center bearing bracket. Secure the spring(s) to the center bearing bracket with (2) 3/8"- 16 x 1-1/2" hex head bolts and (2) 3/8"- 16 nuts.

IMPORTANT: SPRINGS UNDER TENSION CAN BE DANGEROUS.

IMPORTANT: THE SPRING WARNING TAG(S) SUPPLIED MUST BE SECURELY ATTACHED TO THE STATIONARY SPRING CONE IN PLAIN VIEW. SHOULD A REPLACEMENT SPRING WARNING TAG BE REQUIRED, CONTACT WAYNE-DALTON CORP. FOR FREE REPLACEMENTS.



Counterbalance Cables

Tools Needed:

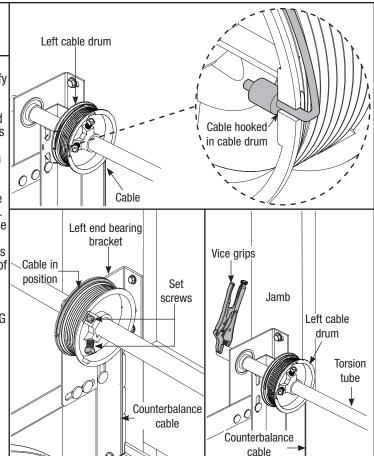
Vice Grips

3/8" Wrench

Step Ladder

Thread the counterbalance cables around the back side of the cable drums and verify that there are no cable obstructions. Hook the cables into the drums. Slide the left hand cable drum against the left hand end bearing bracket and tighten the set screws in the drum to 14-15 ft. lbs. of torque (Once set screws contact the tube, tighten screws one full turn). Rotate the left hand drum and torsion tube until cable is taut. Attach vice grips to torsion tube and brace vice grips against jamb to keep cable taut. Slide the right hand cable drum against the right hand end bearing bracket and rotate drum until cable is taut. Tighten set screws in right hand cable drum to 14-15 ft. lbs. of torque (Once set screws contact the tube. tighten screws one full turn).

IMPORTANT: CHECK EACH CABLE, MAKING SURE BOTH ARE SEATED PROPERLY ON THE CABLE DRUMS AND HAVE EQUAL CABLE TENSION.



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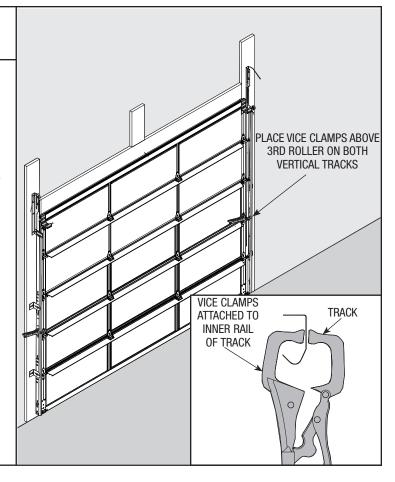
Securing Door for Spring Winding

Tools Needed: (2) Vice Clamps

Place vice clamps onto both vertical tracks just above the third roller. This is to prevent the garage door from raising while winding torsion springs.

△ WARNING

FAILURE TO PLACE VICE CLAMPS ONTO VERTICAL TRACK CAN ALLOW DOOR TO RAISE AND CAUSE SEVERE OR FATAL INJURY



Winding Torsion Spring(s)

Tools Needed: Power Drill

3/16" Drill Bit

7/16" Socket Driver

Phillips Head Screwdriver

Position a ladder slightly to the side of spring so that the winding cone is easily accessible, yet your body is not in direct line with the winding bars. Check the label attached to the spring warning tag for the required number of complete turns to balance your door.

DOOR HEIGHT	400-8
7'0"	7.875
8'0"	8.875

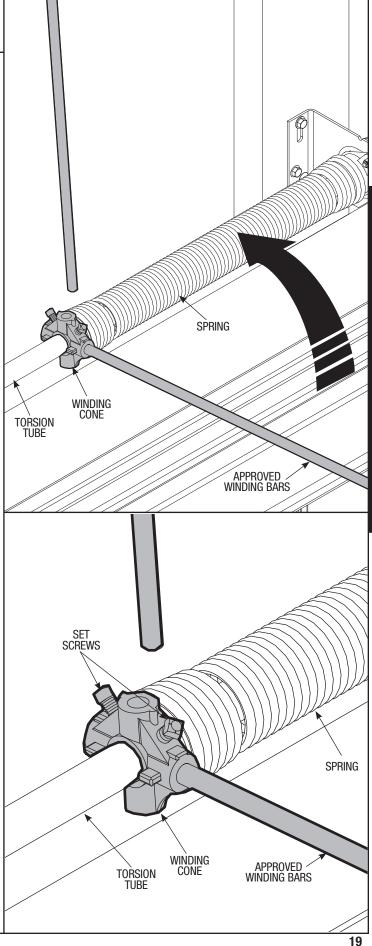
PRIOR TO WINDING OR MAKING ADJUSTMENTS TO THE SPRINGS, ENSURE YOU'RE WINDING IN THE PROPER DIRECTION AS STATED IN THE INSTALLATION INSTRUCTIONS. OTHERWISE, THE SPRING FITTINGS MAY RELEASE FROM SPRING IF NOT WOUND IN THE PROPER DIRECTION AND COULD RESULT IN SEVERE OR FATAL INJURY.

Alternately inserting the winding bars into the holes of the spring's winding cone, rotate the winding cone upward toward ceiling, 1/4 turn at a time, until the required number of complete turns for your door height is achieved. As the last 1/4 turn is achieved, securely hold winding bar while tightening both set screws in winding cone to 14-15 ft. lbs. of torque (Once set screws contact the tube, tighten screws one full turn).

Carefully remove winding bar from winding cone. Proceed to wind the second spring in the same manner. While holding the door down, to prevent it from rising unexpectedly, in the event the spring(s) were overwound, carefully remove the locking clamps from the torsion tube and the vertical tracks.

IMPORTANT: CAUTIOUSLY REMOVE LOCKING PLIERS FROM THE TORSION TUBE AND LOCKING CLAMPS FROM THE VERTICAL TRACKS.

Adjustments from the number of turns stated may be necessary. If door raises off floor under spring tension alone, Reduce spring tension until door rests on the floor. If the door is hard to raise or drifts down on its own, add spring tension. An unbalanced door such as this can cause garage door opener operation problems.



Rear Support

Tools Needed:

Ratchet Wrench

1/2" Socket

1/2" Wrench

(2) Vice Clamps

Step Ladder

△ WARNING

KEEP HORIZONTAL TRACK PARALLEL AND WITHIN 3/4" MAXIMUM OF DOOR EDGE, OTHERWISE DOOR COULD FALL, RESULTING IN SEVERE INJURY OR DEATH.

Raise the door until the top section and half of the next section are in a horizontal position. Do not raise door any further since rear of horizontal track is not yet supported.

△ WARNING

RAISING DOOR FURTHER CAN RESULT IN DOOR FALLING AND CAUSE SEVERE INJURY OR DEATH.

Clamp a pair of vice clamps on the vertical tracks just above the second roller on one side, just below the second roller on the other side. This will prevent the door from raising or lowering while installing the rear support.

Using perforated angle, 5/16" x 1-5/8" hex head lag screws and 5/16" bolts with nuts (may not be supplied), fabricate rear support for horizontal tracks. Attach horizontal tracks to the rear supports with 5/16"- 18 x 1-1/4" hex bolts and nuts (may not be supplied). Horizontal tracks must be level and parallel with door.

NOTE: Doors over 11 ft. high and over 14 ft. wide must have (1) intermediate drop hanger as shown. Doors over 16' high must have (2) intermediate drop hangers as shown.

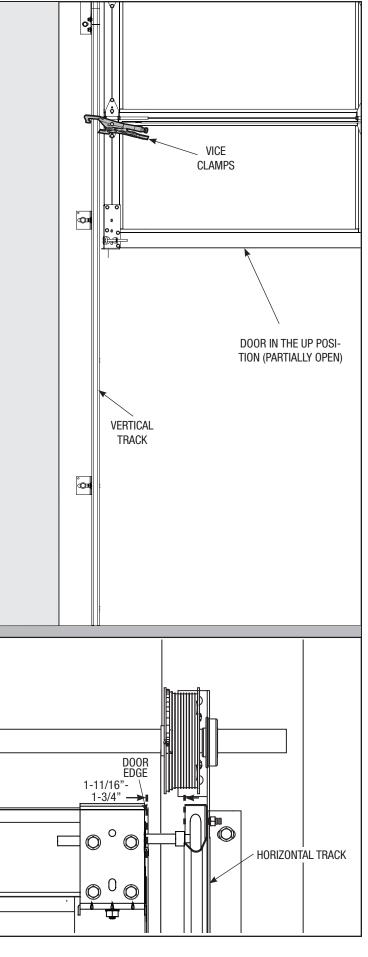
NOTE: If rear supports are to be installed over drywall, use 5/16" x 2" hex head lag screws.

NOTE: Make sure the spacing is correct for the top section from the horizontal track (as shown and step 10).

Adjust weather seal (if necessary) Now permanently attach the weather seal to both door jambs and header. (Temporarily attached in PREPARING THE OPENING on page 6.) Avoid pushing weather seal too tightly against face of door.

△ WARNING

PRIOR TO WINDING OR MAKING
ADJUSTMENTS TO THE SPRINGS,
ENSURE YOU'RE WINDING IN THE
PROPER DIRECTION AS STATED IN
THE INSTALLATION INSTRUCTIONS.
OTHERWISE, THE SPRING FITTINGS MAY
RELEASE FROM SPRING IF NOT WOUND
IN THE PROPER DIRECTION AND COULD
RESULT IN SEVERE OR FATAL INJURY.



Rear Support Continued... To adjust spring tension, fully close Tools Needed: door. Apply vice clamps to track above third roller. Insert a winding bar into the winding cone. Push upward on the winding bar while carefully loosening the **PERFORATED** set screws in the winding cone. PERFORATED ANGLE -BOLTED ANGLE BRACE USING (2) 5/16" X 1-5/8" BE PREPARED TO SUPPORT THE FULL HEX HEAD LAG SCREWS FORCE OF THE TORSION SPRING ONCE TO CEILING MEMBER AND THE SET SCREWS ARE LOOSE. Carefully PARALLEL TO WIDTH OF DOOR adjust spring tension 1/4 turn. Retighten both set screws in the winding cone and repeat for the other side. Recheck door balance DO NOT ADJUST MORE THAN HORIZONTAL TRACK **BOLT MUST EXTEND INTO** 1/2 TURN FROM THE RECOMMENDED THE TRACK TO SERVE AS NUMBER OF TURNS. If door still does not A ROLLER STOP balance correctly, contact a qualified door agency. SOUND FRAMING MEMBERS If the door still does not operate easily. lower the door into the closed position, UNWIND THE SPRING(S) FULLY and recheck the following items: 1.) Check the door for level. ANGLE BRACE 2.) Check the torsion tube for level. PERFORATED ANGLE -BOLTED 3.) Check the track spacing. USING (2) 5/16" X 1-5/8" 4.) Check the counterbalance cables for HEX HEAD LAG SCREWS equal tension (drums must be equally TO CEILING MEMBER AND raped before spring winding). PARALLEL TO WIDTH OF DOOR 5.) Check the track for potential obstruction of the rollers. HORIZÓNTAL TRACK **BOLT MUST EXTEND INTO** 6.) Clamp vice clamps onto track and THE TRACK TO SERVE AS rewind springs A ROLLER STOP **IMPORTANT: IF DOOR STILL DOES NOT** PERFORATED ANGLE OPERATE PROPERLY, THEN CONTACT A TRAINED DOOR SYSTEM TECHNICIAN. (3) 5/16" BOLTS & NUTS BACK HANGERS DOORS OVER 16' HIGH USE 2 INTERMEDIATE HANGERS. 3/8" DIA. BOLT SHOULD PROTRUDE INTO TRACK TO SERVE AS A ROLLER STOP.



Side Lock

Tools Needed:

Power Drill

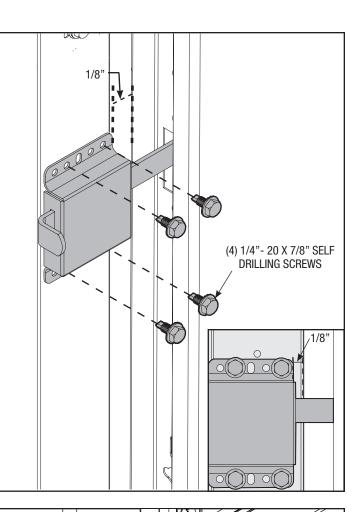
7/16" Socket Driver

Tape Measure

Install the side lock on the second section of the door. Secure the lock to the section with (4) 1/4"- 20 x 7/8" self drilling screws. Square the lock assembly with the door section and align with the square hole in the vertical track. The side lock should be spaced in approximately 1/8" from the section edge.

IMPORTANT: SIDE LOCKS MUST BE REMOVED OR MADE INOPERATIVE IN THE UNLOCKED POSITION IF AN OPERATOR IS INSTALLED ON THE DOOR.

NOTE: After completing this step, continue with step 9 on page 13.





Pull Rope

Tools Needed:

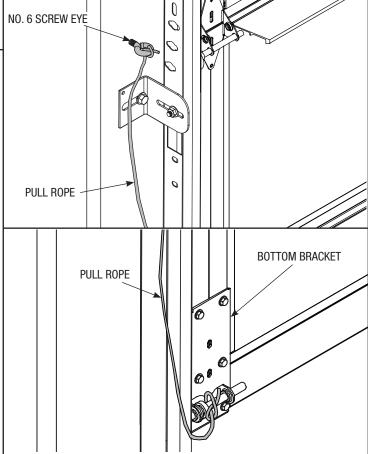
Power Drill

1/8" Drill Bit

△ WARNING

DO NOT INSTALL PULL ROPES ON DOORS WITH ELECTRIC OPERATORS. CHILDREN MAY BECOME ENTANGLED IN THE ROPE CAUSING SEVERE OR FATAL INJURY.

Measure and mark the jamb approximately 48" to 50" (1220 to 1270 mm) from floor on the right or left side of door. Drill 1/8" pilot hole for No. 6 screw eye. Install the No. 6 screw eye. Tie the pull rope to the No. 6 screw eye and to the bottom bracket as shown.





Trolley Operator

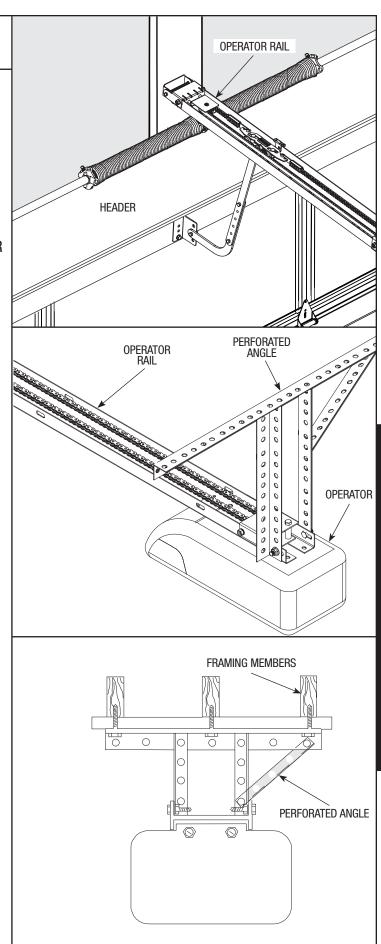
Tools Needed: Tape Measure

△ WARNING

OPERATOR MUST BE TESTED AT TIME OF INSTALLATION AND MONTHLY THEREAFTER TO **ENSURE THAT DOOR REVERSES** ON CONTACT WITH 2 X 4 BOARD LAID FLAT UNDER THE DOOR. FAILURE TO ADJUST OPERATOR, IF NECESSARY, CAN RESULT IN SEVERE OR FATAL INJURY. IF YOUR OPERATOR IS EQUIPPED WITH A PHOTOELECTRIC EYE SYSTEM, THEN THIS MUST BE TESTED AT THE SAME TIME TO ENSURE THAT DOOR DOES NOT CLOSE AND A CLOSING DOOR OPENS IF PHOTOELECTRIC EYE SYSTEM IS OBSTRUCTED. FAILURE TO MAKE ADJUSTMENTS, IF NECESSARY, CAN RESULT IN SEVERE OR FATAL INJURY.

- Install operator rail 1/2" to 1-1/2" (13 - 38 mm) above high arc of top section of the door.
- Mount operator to ceiling so that 1" to 1-1/2" (25 - 38 mm) clearance is maintained between trolley rail and top section when door is fully open (trolley rail will slope down towards rear).
- 3. Attach door arm to operator bracket
- Attach operator rail to suitable mounting surface, 2 x 6 lumber minimum.
- 5. Attach operator to ceiling using perforated angle.

IMPORTANT: ANGLES MUST BE SECURELY ATTACHED TO SOUND FRAMING MEMBER(S).





Exhaust Port Installation

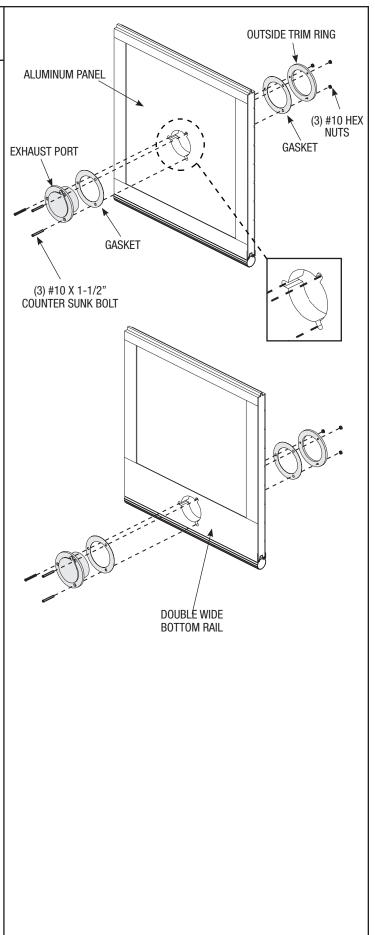
Tools Needed:

Exhaust port is installed on the back side of the bottom section into the aluminum panel or a double wide bottom rail.

NOTE: Gaskets need to be installed against both sides of the door section.

Install the exhaust port using $(3) #10 \times 1-1/2$ " counter sunk bolts and nuts, as shown.

 $\begin{tabular}{ll} \textbf{NOTE:} & After completing this step, continue \\ with step 9 on page 13. \end{tabular}$





Cleaning Your Garage Door

IMPORTANT: DO NOT USE A PRESSURE WASHER ON YOUR GARAGE DOOR!

While factory-applied finishes on garage doors are durable, it is desirable to clean them on a routine basis. Some discoloration of the finish may occur when a door has been exposed to dirt-laden atmosphere for a period of time. Slight chalking may also occur as a result of direct exposure to sunlight.

Cleaning the door will generally restore the appearance of the finish. To maintain an aesthetically pleasing finish of the garage door, a periodic washing of the garage door is recommended.

The following cleaning solution is recommended

A mild detergent solution consisting of one cup detergent (with less than 0.5% phosphate) dissolved into five gallons of warm water will aid in the removal of most dirt.

NOTE: The use of detergents containing greater than 0.5% phosphate is not recommended for use in general cleaning of garage doors.

NOTE: Be sure to clean behind weather stripping on both sides and top of door.

CAUTION: NEVER MIX CLEANSERS OR DETERGENTS WITH BLEACH.

GLASS CLEANING INSTRUCTIONS

Clean with a mild detergent solution (same as above) and a soft cloth. After cleaning, rinse thoroughly.

ACRYLIC CLEANING INSTRUCTIONS

Clean acrylic glazing with nonabrasive soap or detergent and plenty of water. Use your bare hands to feel and dislodge any caked on particles. A soft, grit-free cloth, sponge or chamois may be used to wipe the surface. Do not use hard or rough cloths that will scratch the acrylic glazing. Dry glazing with a clean damp chamois.

NOTE: DO NOT USE any window cleaning fluids, scouring compounds, gritty cloths or solvent-based cleaners of any kind.

Limited Warranty Model 8850

Subject to the terms and conditions contained in this Limited Warranty, Wayne-Dalton Corp. ("Manufacturer") warrants the sections of the door for <u>FIVE (5) YEARS</u> with the exception of the items that follow which is described at the top of this page. These exceptions will be warranted for a period of **ONE (1) YEAR** from the date of installation against:

- (i) Fading, cracking or chipping of the anodized or powder coated finish.
- (ii) Fogging or condensation forming inside of the insulated glass unit.
- (iii) Chipping, cracking, scratching, breaking, or discoloration of the glass due to defects in material or workmanship.

The Manufacture will not be responsible for glass chipping, breaking, or cracking resulting from any circumstances beyond the direct control of the manufacture will not be covered under this warranty.

The Manufacturer warrants the garage door hardware (except springs) and the tracks of the above-described door, for a period of **FIVE (5) YEARS** from the date of installation, against defects in material and workmanship, subject to all the terms and conditions below.

The Manufacturer warrants those component parts of the door not covered by the preceding provisions of this Limited Warranty against defects in material and workmanship for a period of **ONE (1) YEAR** from the date of installation.

This Limited Warranty is extended only to the person who purchased the product and continues to own the premises (where the door is installed) as his/her primary residence ("Buyer"). This Limited Warranty does not apply to residences other than primary, or to commercial or industrial installations, or to installations on rental property (even when used by a tenant as a residence). This Limited Warranty is not transferable to any other person (even when the premises is sold), nor does it extend benefits to any other person. As a result this Limited Warranty does NOT apply to any person who purchases the product from someone other than an authorized Wayne-Dalton dealer or distributor.

The Manufacturer will not be responsible for any damage attributable to improper storage, improper installation, or any alteration of the door or its components, abuse, damage from corrosive fumes or substances, salt spray or saltwater air, fire, Acts of God, failure to properly maintain the door, or attempt to use the door, its components or related products for other than its intended purpose and its customary usage. This Limited Warranty does not cover ordinary wear. This Limited Warranty will be voided if any holes are drilled into the door, other than those specified by the Manufacturer.

THIS LIMITED WARRANTY COVERS A CONSUMER PRODUCT AS DEFINED BY THE MAGNUSON-MOSS ACT. NO WARRANTIES, EXPRESS OR IMPLIED (INCLUDING BUT NOT LIMITED TO THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) WILL EXTEND BEYOND THE TIME PERIOD SET FORTH IN **UNDERSCORED BOLD FACE TYPE** IN THIS LIMITED WARRANTY, ABOVE.

Some States do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

Any claim under this Limited Warranty must be made in writing, within the applicable warranty period, to the dealer from which the product was purchased. Unless the dealer is no longer in business, a written claim to the Manufacturer will be the same as if no claim had been made at all.

At the Manufacturer's option, pursuant to the dealer having notified the Manufacturer of a warranty claim, a service representative may inspect the product on site, or Buyer may be required to return the product to the Manufacturer at Buyer's expense. Buyer agrees to cooperate with any representative of the Manufacturer and to give such representative full access to the product with the claimed defect and full access to the location of its installation

If the Manufacturer determines that the claim is valid under the terms of this Limited Warranty, the Manufacturer will cause the defective product to be repaired or replaced. The decision about the manner in which the defect will be remedied will be at the discretion of the Manufacturer, subject to applicable law. THE REMEDY WILL COVER ONLY MATERIAL. THIS LIMITED WARRANTY DOES NOT COVER OTHER CHARGES, SUCH AS FIELD SERVICE LABOR FOR REMOVAL. INSTALLATION. PAINTING. SHIPPING. ETC.

Any repairs or replacements arranged by Manufacturer will be covered by (and subject to) the terms, conditions, limitations and exceptions of this Limited Warranty; provided, however, that the installation date for the repaired or replaced product will be deemed to be the date the original product was installed, and this Limited Warranty will expire at the same time as if there had been no defect. If a claim under this Limited Warranty is resolved in a manner other than described in the immediately preceding paragraph, then neither this Limited Warranty nor any other warranty from the Manufacturer will cover the repaired or replaced portion of the product.

THE REMEDIES FOR THE BUYER DESCRIBED IN THIS LIMITED WARRANTY ARE EXCLUSIVE and take the place of any other remedy. The liability of the Manufacturer, whether in contract or tort, under warranty, product liability, or otherwise, will not go beyond the Manufacturer's obligation to repair or replace, at its option, as described above. THE MANUFACTURER WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, including (but not limited to) damage or loss of other property or equipment, personal injury, loss of profits or revenues, business or service interruptions, cost of capital, cost of purchase or replacement of other goods, or claims of third parties for any of the foregoing.

• Some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

No employee, distributor, dealer, representative, or other person has the authority to modify any term or condition contained in this Limited Warranty or to grant any other warranty on behalf of or binding on the Manufacturer, and anyone's attempt to do so will be null and void.

Buyer should be prepared to verify the date of installation to the satisfaction of the Manufacturer.

The rights and obligations of the Manufacturer and Buyer under this Limited Warranty will be governed by the laws of the State of Ohio, USA, to the extent permitted by law.

• This Limited Warranty gives you specific legal rights and you may also have other rights, which may vary from State to State.

Covered by one or more of the following Patents; 5,408,724; 5,409,051; 5,419,010; 5,495,640; 5,522,446; 5,562,141; 5,566,740; 5,568,672; 5,718,533; 6,019,269; 6,089,304; 6,644,378; 6,374,567; 6,561,256; 6,527,037; 6,640,872; 6,672,362; 6,725,898; 6,843,300; 5,915,573; 6,951,237; 7,014,386; 7,036,548; 7,059,380; 7,121,317; 7,128,123; 7,134,471; 7,134,472; 7,219,392; 7,254,868. Canadian:
2,384,936; 2,477,445; 2,495,175; 2,507,590; 2,530,701; 2,530,74; 2, 2,532,824. Other US and Foreign Patents pending Please Do Not Return This Product To The Store
Contact your local Wayne-Dalton dealer. To find your local Wayne-Dalton dealer, refer to your local yellow pages business listings or go to the Find a Dealer section online at www.wayne-dalton.com
Thank you for your purchase